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REMARKS

Claims 1-3 stand rejected under 35 U.S.C. § 102 by Nakura, and claims 4-9 stand rejected under 35 U.S.C. § 103 over Nakura in view of Bailey. Claim 1 is independent. These rejections are respectfully traversed for the following reasons.

Claim 1 recites in pertinent part, a "a semiconductor substrate having an insulative film in an upper portion of the semiconductor substrate; a contact plug running through the insulative film; a memory cell capacitor for storing data, including a first electrode provided above the semiconductor substrate and connected to the contact plug" One exemplary embodiment of the present invention as recited in claim 1 is described, for example, on page 18, lines 4-7 of Applicants' specification with respect to Figure 1. In contrast, the alleged semiconductor substrate 21 of Nakura does not include an insulative film in an upper portion thereof having a contact plug running therethrough, so as to be connected to the bottom electrode 24 provided *above* the semiconductor substrate.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Nakura does not anticipate 1, nor any claim dependent thereon.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1-3 are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also

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patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is submitted that claims 1-9 are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection of claims 1-9 under 35 U.S.C. § 102 and 103 be withdrawn.

NEW CLAIMS

Claim 22 recites in pertinent part, "wherein the overlying hydrogen barrier film is made of Al_2O_3 , TiN, TiAlN, TiSiN, TaN, TaAlN, or TaSiN." Support for claim 22 can be found, for example, on page 44, lines 18-21 of Applicants' specification. Nakura discloses only using SiON and SiN as a material for the overlying hydrogen barrier film. Nakura fails to disclose Al_2O_3 , TiN, TiAlN, TiSiN, TaN, TaAlN, or TaSiN, or suggest using these materials. Hence, new claim 22 is submitted to be patentable over the cited prior art.

Claim 23 defines claim 3 rewritten into independent form based on original claim 1. The Examiner alleges that Nakura discloses using sputtering to form the overlying film *in the prior art* (col. 2, line 3). However, there is no suggestion that the disclosed embodiment of Nakura, which the Examiner relies on in the Office Action, incorporates the sputtering of the disclosed prior art. As is well known, a rejection under § 102 requires a *single* disclosed embodiment in the prior art to disclose each and every claim limitation. The disclosed embodiment of a patent and the admitted prior art described in said patent do NOT form a single disclosed embodiment unless the specification incorporates the admitted prior art feature into the disclosed embodiment. In the instant case, the Examiner has not pointed out any disclosure in Nakura that

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suggests the sputtering used in the admitted prior art can be used in the disclosed embodiment of Nakura relied on in the Office Action.

Moreover, Nakura negatively references an overlying hydrogen barrier layer formed by a sputtering method (col. 2, lines 28-33) in the admitted prior art. In addition, Nakura considers the reducing ambient in the deposition gas as a problem when the SiON or SiN film is formed as the overlying hydrogen barrier film, and thereby discloses a solution to that particular problem, (col. 4, lines 57-65). It is important to note that hydrogen is not generated by the sputtering method, and the reducing ambient is not obtained. For the aforementioned reasons, Nakura teaches away from using the sputtering method in the formation of the overlying hydrogen barrier film in the disclosed embodiment relied on by the Examiner. Hence, new claim 23 is submitted to be patentable over the cited prior art.

Claim 24 recites in pertinent part, "wherein the underlying hydrogen barrier film is in contact with the overlying hydrogen barrier film in a peripheral region around the memory cell capacitor, and a contact portion between the underlying hydrogen barrier film and the overlying hydrogen barrier film is apart from the memory cell capacitor." Support for claim 24 can be found, for example, in Figure 5 of Applicants' drawings and the corresponding portions of the specification. As described on page 20, lines 14-23 and page 25, lines 7-13 of Applicants' specification, the present invention as recited in claim 24 can provide benefits/advantages over the prior art.

Neither Nakura nor Bailey, alone or in combination, disclose or suggest that the underlying hydrogen barrier film is in contact with the overlying hydrogen barrier film in a peripheral region around the memory cell capacitor, and a contact portion between the

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underlying hydrogen barrier film and the overlying hydrogen barrier film is apart from the memory cell capacitor. Hence, new claim 24 is submitted to be patentable over the cited prior art.

Claim 25 recites in pertinent part, "wherein the first electrode is buried in the underlying hydrogen barrier film, and the capacitance insulating film is in contact with the underlying hydrogen barrier film." Support for claim 25 can be found, for example, in Fig. 12 of Applicants' drawings and the corresponding portions of the specification. As described on page 39, lines 5-14 of Applicants' specification, the present invention as recited in claim 25 can provide benefits/advantages over the prior art.

Neither Nakura nor Bailey, alone or in combination, disclose or suggest the capacitance insulating film is in contact with the underlying hydrogen barrier film. Hence, new claim 25 is submitted to be patentable over the cited prior art.

CONCLUSION

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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